On-site Sewage Disposal Systems

County of San Diego

Department of Environmental Health

Land and Water Quality Division

Types of Systems

- Leach lines
- Horizontal Seepage Pits
- Vertical Seepage Pits
- Graywater Systems
- Alternative Systems

Design Requirements

- **Percolation Test Data**
  Creating Subdivisions or Parcel Maps
  Seepage Pits
  Poor Site Conditions
  Alternative Systems
  Commercial Designs
- **Existing Certifications from:**
  Subdivisions
  Parcel Maps
  Boundary Adjustments
  Certificates of Compliance
  to develop existing parcels

Soil Requirements

- Permeable during saturated conditions
- 5 feet of soil below system
- Sewage Treatment within the soil
- Sizing based on percolation rate and use

Site Requirements

- **Lot Size**
  Sufficient for design
- **System Size**
  Function of Soil and Use
- **Usable Area**
  Net minus setbacks & easements
- **Grading**
  5:1 setbacks from top of cut
- **Soil Depth**
  At least 5 feet below design depth
- **Setback Requirements**
  Can be severe
- **Easements***
  Roadways, waterlines, open-space

***San Diego County Water Authority Aqueduct in San Marcos**

Septic System Failures

- **Design Life Expectancy**
- **Lack of Maintenance**
- **Overuse**
- **Damage**
- **Rise in Groundwater**
- **Improperly designed**
- **Improperly installed**

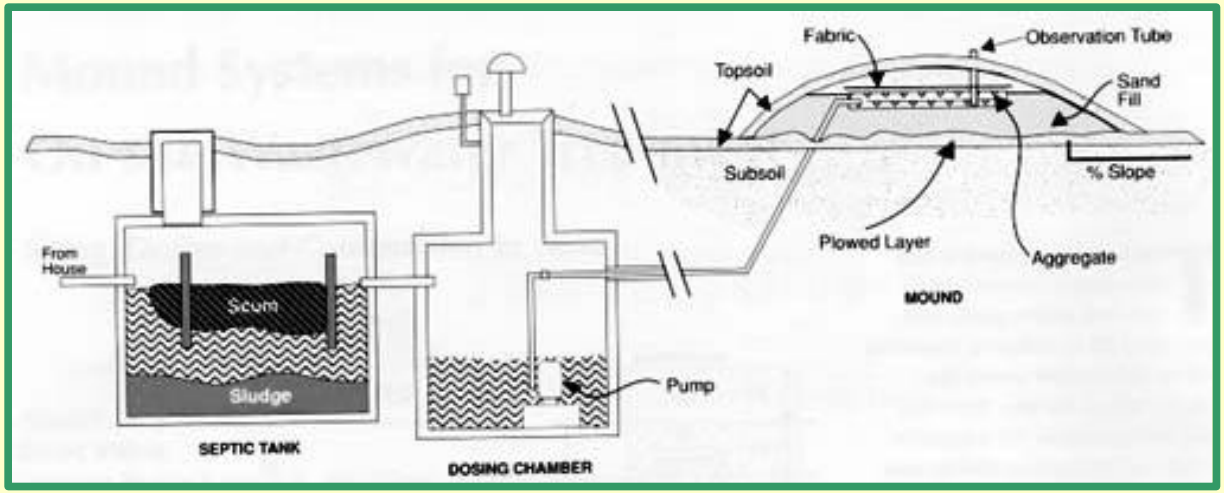
Repair or Sewer Connection?

- **What is cause?**
- **Is a repair possible?**
- **Can it be expected to function over a prolonged period?**
- **What are options?**
- **SDCC and UPC require sewer connection when sewer is readily available**

Alternative Systems as Repairs

- **Highly treated sewage**
- **Beneficial Effluent Reuse**
- **Shallow Soil Application**
- **Less Land Area Required**
- **Expensive**
- **Maintenance Agreement**
- **Annual Permit**

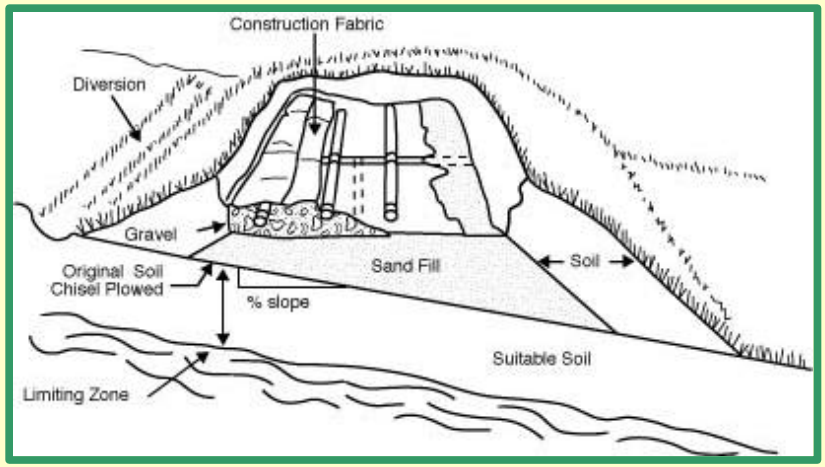
Alternative Septic Design - Mound Systems



- Septic Tank + Pump Chamber + Mound
- Minimum depth to historic groundwater 4 ft
- Requires monitoring and use permit
- Designed by licensed consultant

Mound System Design

- Permeable soil depth to 4 feet
- Slope of land 12% or less
- 1500 gallon septic tank
- Pump or dosing chamber
- Mound
- Monitoring wells



Alternative Systems for New Construction

- **For time being restricted to experimental systems**
- **Conventional System design required as back up**
- **Valley Center Basin approved for mound systems**
- **Some unbuildable lots may remain unbuildable without public sewer for new construction**

Summary

- **Current design requirements cannot be met in many repair situations, but minimum standards for repairs can be allowed, if necessary.**
- **Septic system failures on most sites can be repaired, and this is what the reserve area is for on the property.**
- **Public Sewer is increasingly more difficult to access and is not very often an option.**
- **Alternative Systems may be the “impossible repair” solution in some cases, but they are expensive and have no track record in San Diego.**
- **In some cases connection to public sewer is the only way to save an existing house from condemnation. This should be approached as a public health issue and not a growth issue, if public sewer is readily available.**
- **A properly designed and maintained on-site sewage disposal system is a very efficient means of sewage treatment and disposal as a permanent system.**